

ATTACHMENT  
DeepWorker Capabilities and General Operations  
November 8, 1998

Two DeepWorker submersibles will provide the primary logistics for the *Sustainable Seas Expeditions*. Though standard equipment on the DeepWorker has not been finalized, it is likely to include a "science quality" video camera with lights, and one manipulator arm, with collection and containment capability for collection of limited samples. Additional equipment such as laser measuring devices, still camera, etc. also under review and may be added to our list of basic equipment. We will continue to send you updates on equipment as they occur.

Other PI required equipment may be added to the DeepWorker, but that equipment must be pressure tested to conform with safety specifications for the subs. It is essential that this equipment be identified as early as possible in the cruise planning process to assure its compatibility with the submersibles. Cost for mounting can only be determined once the equipment is identified. The maximum payload capability for the submersible is approximately 250 pounds, including pilot. This can be modified to some extent by adding extra flotation to the sub.

On average, *Expeditions* to each sanctuary will last two weeks, with approximately seven days allocated for research dives. Currently, the *Sustainable Seas* budget allows for 12-hour day or night operations. 24-hour operations are not possible the first year. We also will not expect to dive both submersibles concurrently, as the second sub is used as a back-up and for emergencies. Exceptions for use of two subs may be possible, but only after further review. This is not considered a basic operation and requires higher than normal piloting expertise.

A typical DeepWorker day will consist of two 4-hour, one 6-hour, or one 8-hour dive. In general, the *Sustainable Seas Expeditions* will not endorse destructive sampling methods (i.e. collecting animals will not be encouraged). These methods will only be used if no alternative methods are available.

Lastly, we do encourage all potential pilots to take CPR and First Aid classes prior to the *Expedition*. This is not a requirement but will assure a common level of knowledge should an emergency arise.